

TEST REPORT

Product Name: 3-in-1 Charger Stand

Trade Mark: heyday™  or
dealworthy™

Model No.: QIC37M

Add. Model No.: N/A

Report Number: 24051711551RFC-2

Test Standards: FCC 47 CFR Part 1.1310

FCC ID: 2AO23-QIC37M

Test Result: PASS

Date of Issue: June 13, 2024

Prepared for:

CHUG, Inc.

7157 Shady Oak Rd, Eden Prairie MN 55344, United States

Prepared by:

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UTTR-RF-FCCPART1-V1.1

Version

Version No.	Date	Description
V1.0	June 13, 2024	Original



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CONTENTS

1. GENERAL INFORMATION	4
1.1 CLIENT INFORMATION	4
1.2 EUT INFORMATION	4
1.3 DESCRIPTION OF SUPPORT UNITS	4
1.4 GENERAL DESCRIPTION OF APPLIED STANDARDS	4
1.5 TEST LOCATION	5
1.6 TEST FACILITY	5
1.7 MEASUREMENT UNCERTAINTY	5
2. EQUIPMENT LIST	6
3. TEST CONFIGURATION	7
3.1 ENVIRONMENTAL CONDITIONS FOR TESTING	7
3.1.1 NORMAL OR EXTREME TEST CONDITIONS	7
3.1.2 RECORD OF NORMAL ENVIRONMENT AND TEST SAMPLE	7
3.2 TEST MODES	7
4. RF EXPOSURE EVALUATION	8
4.1 REFERENCE DOCUMENTS FOR EVALUATION	8
4.2 MPE ASSESSMENT LIMIT	8
4.3 TEST PROCEDURE	9
4.4 TEST SETUP	9
4.5 RESULTS	10
4.6 EQUIPMENT APPROVAL CONSIDERATIONS	11
APPENDIX 1 PHOTOS OF TEST SETUP	12
APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS	12

1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

Applicant:	CHUG, Inc.
Address of Applicant:	7157 Shady Oak Rd, Eden Prairie MN 55344, United States
Manufacturer 1:	PYS VIETNAM TECHNOLOGY COMPANY LIMITED
Address of Manufacturer 1:	CN-06,ThuanThanh II industrial zone,Mao Dien commune,ThuanThanh district, BacNinh, Vietnam
Manufacturer 2:	PYS High-Tech Co., Ltd.
Address of Manufacturer 2:	1F~12F, Block 9, Lianhua Industrial Zone, Longhua, Shenzhen,Guangdong 518109 CHINA

1.2 EUT INFORMATION

Product Name:	3-in-1 Charger Stand	
Model No.:	QIC37M	
Add. Model No.:	N/A	
Trade Mark:	  or 	
DUT Stage:	Identical Prototype	
EUT Supports Function:	WPT systems:	115KHz to 205KHz
		326.5kHz
		127kHz/362.5kHz
Software Version:	V1.2 (Provided by the customer)	
Hardware Version:	V1.2 (Provided by the customer)	
Sample Received Date:	May 17, 2024	
Sample Tested Date:	June 4, 2024 to June 6, 2024	

1.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.	Serial Number	Supplied by
iPhone 14 Pro Max	Apple	MQ8F3CH/A	X54CD26699	UnionTrust
Apple watch	Apple	A2092	G99CCKJ7MLTK	UnionTrust
Air Pods	Apple	Air Pods 3	NA	UnionTrust

1.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC 47 CFR Part 1.1310

KDB 680106 v04

KDB 447498 D04v01

All test items have been performed and recorded as per the above standards

1.5 TEST LOCATION

All tests were performed at:

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China 518109

Telephone: +86 (0) 755 2823 0888

Fax: +86 (0) 755 2823 0886

1.6 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L9069

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

A2LA-Lab Certificate No.: 4312.01

Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED Wireless Device Testing Laboratories

CAB identifier: CN0032

FCC Accredited Lab.

Designation Number: CN1194

Test Firm Registration Number: 259480

1.7 MEASUREMENT UNCERTAINTY

No.	Item	Measurement Uncertainty
1	Magnetic field measurement (9kHz~30MHz)	±15 %
2	Electric field measurements (9kHz~30MHz)	±15 %
Remark: 95% Confidence Levels, k=2.		

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2. EQUIPMENT LIST

Electromagnetic field Test						
Used	Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
☒	Electric and Magnetic Field Analyzer	NARDA	EHP-50F	510ZY30309	Nov. 08, 2023	Nov. 07, 2024
☐	Probe holder	Manfrotto	709B DIGI	C2872165	N/A	N/A
☒	Optical fiber line	NARDA	2260/91.07	22112684	N/A	N/A
☒	USB-RS232 Converter	N/A	N/A	23119685	N/A	N/A
☒	Test Software	NARDA	EHP50-TS	Software Version: Rel.1.78 16/02/2022 (USB)		
☒	Electric and Magnetic Field Analyzer	NARDA	EHP-200A	180ZX00610	Nov. 08, 2023	Nov. 07, 2024
☒	Optical fiber line	NARDA	10x02POF-2xHFBR4506Z	650.000.053	N/A	N/A
☒	Optical fiber line	NARDA	10x02POF-HFBR4506Z/RP02	650.000.177	N/A	N/A
☒	USB-RS232 Converter	N/A	N/A	21064741	N/A	N/A
☒	Test Software	NARDA	EHP200-TS	Software Version: Rel.1.93 16/04/2020 (USB)		
☐	Broadband Field Meter	NARDA	NBM-550	I-0291	Nov. 08, 2023	Nov. 07, 2024
☐	E-Field Probe	NARDA	EF0691	H-1038	Nov. 08, 2023	Nov. 07, 2024
☐	E-Field Probe	NARDA	EF6092	D-0103	Nov. 08, 2023	Nov. 07, 2024
☐	Probe holder	Berlebach	Report 823	N/A	N/A	N/A
☐	USB Cable	NARDA	STS	2400/90.05	N/A	N/A
☐	Test Software	NARDA	NBM-TS	Software Version: V4.2.0		

3. TEST CONFIGURATION

3.1 ENVIRONMENTAL CONDITIONS FOR TESTING

3.1.1 Normal or Extreme Test Conditions

Environment Parameter	Selected Values During Tests		
Test Condition	Ambient		
	Temperature (°C)	Voltage (V)	Relative Humidity (%)
NT/NV	+15 to +35	1. 120~60Hz 2. 240~50Hz	20 to 75
Remark: 1) NV: Normal Voltage; NT: Normal Temperature			

3.1.2 Record of Normal Environment and Test Sample

Test Item	Temp. (°C)	Relative Humidity (%)	Pressure (kPa)	Sample No.	Tested by
E-Field Strength	21.9	58.2	100.4	S20205173445-ZJA01/2	Lucas Ouyang
Magnetic Field Strength					

3.2 TEST MODES

Test Modes
Test Mode 1: Charging from Adapter 1 (with 120V~60Hz) + Wireless charging mode with phone (15W)
Test Mode 2: Charging from Adapter 1 (with 120V~60Hz) + Wireless charging mode with Air Pods (5W)
Test Mode 3: Charging from Adapter 1 (with 120V~60Hz) + Wireless charging mode with iWatch (5W)
Test Mode 4: Charging from Adapter 1 (with 120V~60Hz) + Wireless charging mode with phone (15W) + Air Pods (5W)
Test Mode 5: Charging from Adapter 1 (with 120V~60Hz) + Wireless charging mode with phone (15W) + iWatch (5W)
Test Mode 6: Charging from Adapter 1 (with 120V~60Hz) + Wireless charging mode with iWatch (5W) + Air Pods (5W)
Test Mode 7: Charging from Adapter 1 (with 120V~60Hz) + Wireless charging mode with phone (15W) + iWatch (5W) + Air Pods (5W)
Test Mode 8: Charging from Adapter 1 (with 120V~60Hz) + Standby
Test Mode 9: Charging from Adapter 1 (with 240V~50Hz) + Worst from Test Mode 1~8

4. RF EXPOSURE EVALUATION

4.1 REFERENCE DOCUMENTS FOR EVALUATION

No.	Identity	Document Title
1	FCC 47 CFR Part 1.1310	Radiofrequency radiation exposure limits.
2	680106 D01 Wireless Power Transfer v04	EQUIPMENT AUTHORIZATION OF WIRELESS POWER TRANSFER DEVICES
3	447498 D04 Interim General RF Exposure Guidance v01	RF Exposure Procedures and Equipment Authorization Policies for Mobile and Portable Devices

4.2 MPE ASSESSMENT LIMIT

According to FCC 47 CFR Part 1.1310 (e)(1), system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

Limits for Occupational / Controlled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	< 6
3.0-30	1842/f	4.89/f	(900/f ²)*	< 6
30-300	61.4	0.163	1.0	< 6
300-1500	/	/	f/300	< 6
1500-100000	/	/	5	< 6

Limits for General Population / Uncontrolled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100000	/	/	1	30

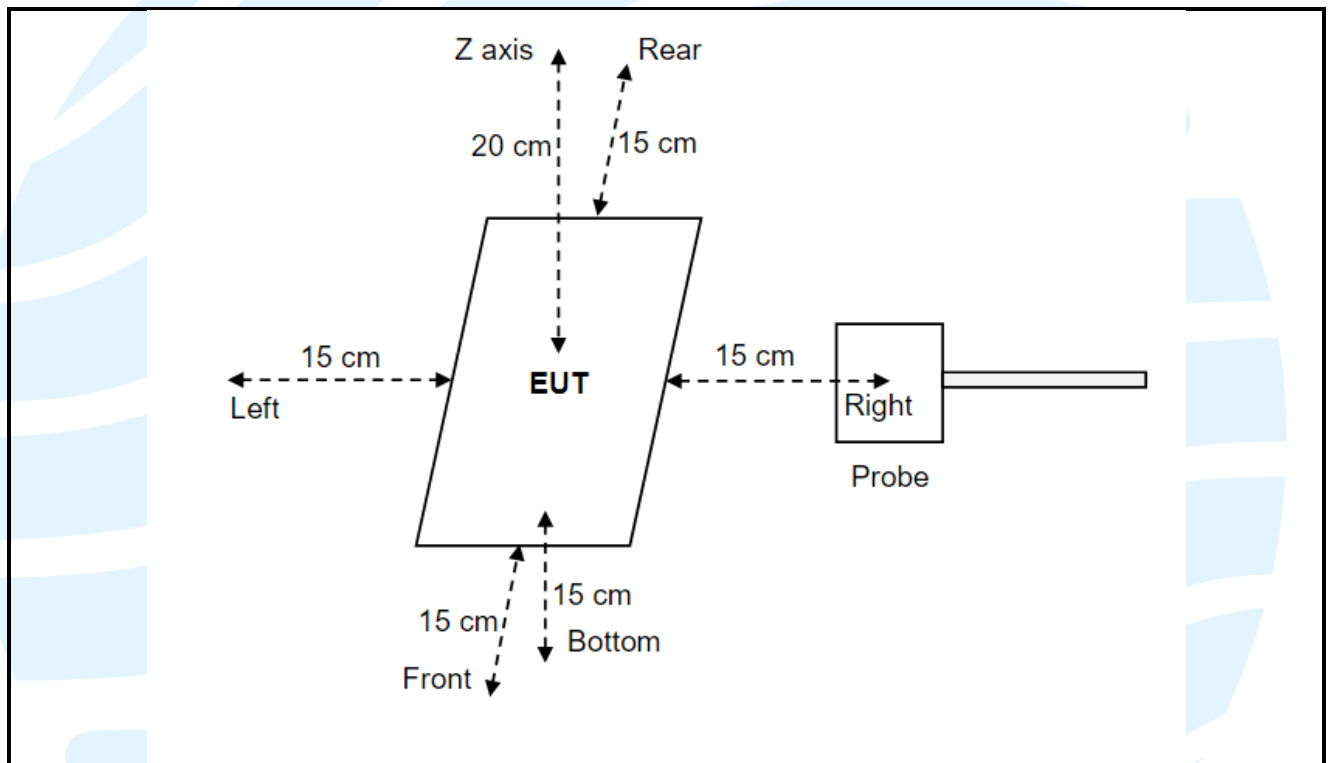
Note: f = frequency in MHz: * = Plane-wave equivalents power density.

4.3 TEST PROCEDURE

Enabled the EUT to transmit and receive data continue

- The field strength of both E-field and H-field was measured at 15 cm surrounding the device and 20 cm above the top surface using the equipment list above for determining compliance with the MPE requirements of FCC Part 1.1310.
- The RF power density was measured with the battery at 3 different charge conditions: battery at less than 1 %, battery at 50% charger, battery at 99% charger,.
- Maximum E-field and H-field measurements were made 15cm from each side of the EUT. Along the side of the EUT and still 15cm away from the edge of the EUT, the field probes were positioned at the location where there is maximum field strength. The maximum E-field and H-field is reported below.
- This device uses a wireless charging circuit for power transfer operating at the frequency of X kHz. Thus, the 300 kHz limits were used: E-field Limit = 614 (V/m); H-field limit = 1.63 (A/m).

4.4 TEST SETUP



Note:

The RF exposure test is performed in the shield room

The test distance is between the edge of the charger and the geometric center of probe

The aggregate at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated.

4.5 RESULTS

Test result of E-Field Strength

Test Position	Test distance (cm)	Test result (Test Mode 7) (V/m)			Limit (V/m)	Result
		<1% Battery status	<50% Battery status	<99% Battery status		
Right	15	0.3735	0.3741	0.3707	614	Pass
Left	15	0.3894	0.3911	0.3808	614	Pass
Front	15	0.3216	0.3246	0.3170	614	Pass
Back	15	0.3876	0.3892	0.3887	614	Pass
Top	20	0.4596	0.4614	0.4480	614	Pass
Bottom	15	0.3823	0.3861	0.3734	614	Pass

Test result of Magnetic Field Strength

Test Position	Test distance (cm)	Test result (Test Mode 7) (A/m)			Limit (A/m)	Result
		<1% Battery status	<50% Battery status	<99% Battery status		
Right	15	0.0473	0.0484	0.0478	1.63	Pass
Left	15	0.0537	0.0542	0.0531	1.63	Pass
Front	15	0.0482	0.0483	0.0471	1.63	Pass
Back	15	0.0519	0.0521	0.0513	1.63	Pass
Top	20	0.0944	0.0904	0.0945	1.63	Pass
Bottom	15	0.1169	0.1174	0.1181	1.63	Pass

Note:

- 1). Test with 15cm distance from the center of the probe(s) to the edge of the device, 20 cm for top (Position E) test
- 2). All simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.
- 3). All possible modes of operation were investigated, only the worst-case emissions reported.

4.6 EQUIPMENT APPROVAL CONSIDERATIONS

Requirements of section 5.2 of KDB 680106 D01 Wireless Power Transfer v04	Yes/No	Description
a) Power transfer frequency is less than 1 MHz.	Yes	The operating frequencies are: Transmitter 1: 115kHz to 205kHz Transmitter 2: 326.5kHz Transmitter 3:127kHz/362.5kHz
b) The output power from each transmitting element (e.g., coil) is less than or equal to 15 watts.	Yes	The maximum output power is: Transmitter 1: 5W Transmitter 2: 5W Transmitter 3:15W
c) A client device providing the maximum permitted load is placed in physical contact with the transmitter.	Yes	Client device is placed directly in contact with the transmitter
d) Only § 2.1091-Mobile exposure conditions apply (i.e., this provision does not cover § 2.1093-Portable exposure conditions).	Yes	Product is not a portable device.
e) The E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit, per KDB 447498, Table 1	Yes	See the test data in section 4.5 of this report
f) For systems with more than one radiating structure, the conditions specified in (5) must be met when the system is fully loaded (i.e., clients absorbing maximum power available), and with all the radiating structures operating at maximum power at the same time, as per design conditions. If the design allows one or more radiating structures to be powered at a higher level while other radiating structures are not powered, then those cases must be tested as well. For instance, a device may use three RF coils powered at 5 W, or one coil powered at 15 W: in this case, both scenarios shall be tested.	Yes	The transmission system consists of three coils, it can work simultaneously, and the tests have evaluated different power combinations.

APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

***** End of Report *****

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